

# How opioid use can lead to addiction

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Opioid use—even short term—can lead to addiction and, too often, overdose.

Anyone who takes opioids is at risk of developing addiction. Your

personal history and the length of time you use opioids play a role, but it's impossible to predict who's vulnerable to eventual dependence on and abuse of these drugs. Legal or illegal, stolen and shared, these drugs are responsible for the majority of overdose deaths in the U.S. today.

Addiction is a condition in which something that started as pleasurable now feels like something you can't live without. Health care providers define drug addiction as an irresistible craving for a drug, out-of-control and compulsive use of the drug, and continued use of the drug despite repeated, harmful consequences. Opioids are highly addictive, in large part because they activate powerful reward centers in your brain.

Endorphins muffle your perception of pain and boost feelings of pleasure, creating a temporary but powerful sense of well-being.

"Opioids release an endorphin or a substance in the body that's the feel-good neurotransmitter," says Dr. Holly Geyer, a Mayo Clinic addiction medicine specialist. "Many people get an intense high off the opioid when provided. Some people feel nothing. It's really about your body and how you are built." "When an opioid dose wears off, you may find yourself wanting those good feelings back, as soon as possible. This is the first milestone on the path toward potential addiction.

"Opioids, over time, when binding to the receptors, can cause upregulation in various parts of the brain to the point that you are more likely to sense that high every time you are exposed to the drug," says Geyer. "This can lead to increased activity to obtain the drug or make sure that you have easy access to it."

## SHORT-TERM VERSUS LONG-TERM EFFECTS

When you take opioids repeatedly over time, your body slows its production of endorphins. The same dose of opioids stops triggering such a strong flood of good feelings. This is called tolerance. One reason

opioid addiction is so common is that people who develop tolerance may feel driven to increase their doses so they can keep feeling good. "Over long periods of time, we see that people become tolerant and undergo withdrawal when they're not in the presence of that drug and then they experience all these negative side effects if it's not in their system," says Geyer. "And so it's really more of an acute phase and a chronic phase, both of which are an underlying brain disorder that we have ways to treat."

Because [health care providers](#) today are acutely aware of opioid risks, it's often difficult to get your health care provider to increase your dose, or even renew your prescription. Some [opioid users](#) who believe they need an increased supply turn, at this point, to illegally obtained opioids or heroin. Some illegally obtained drugs, such as fentanyl (Actiq, Duragesic and Fentora), are laced with contaminants, or much more powerful opioids. Because of the potency of fentanyl, this particular combination has been associated with a significant number of deaths in those using heroin.

"When opioids are provided too long or at higher doses than necessary, we do see complications and that includes the development of addiction," says Geyer. "That's the brain's desire to continue receiving that opioid outside of the original reason it was prescribed. We also see evidence of tolerance, the need to go up higher and higher on your dose, to receive the same high and/or level of pain relief as before."

"And then we also see evidence of withdrawal," adds Geyer. "When that medication's not in your system, the body reacts rather violently in some individuals, and that violent eruption of all these systems that are so dependent on this opioid are now cause for the individual to seek that opioid out from any source necessary, including illicit ones."

If you're taking opioids and you've developed tolerance, ask your health

care provider for help. There are other, safe choices available to help you make a change and continue feeling well. Don't stop opioid medications without a health care provider's help. Quitting these drugs abruptly can cause severe side effects, including pain worse than it was before you started taking opioids. Your health care provider can help you taper off opioids slowly and safely.

## OPIOID ADDICTION RISK FACTORS

Opioids are most addictive when you take them using methods different from what was prescribed, such as crushing a pill so that it can be snorted or injected. This life-threatening practice is even more dangerous if the pill is a long- or extended-acting formulation. Rapidly delivering all the medicine to your body can cause an accidental overdose. Taking more than your prescribed dose of [opioid medication](#), or more often than prescribed, also increases your risk of addiction.

"Individuals between 18 to 45 remain at fairly high risk," says Geyer. "The male population is primarily at risk for most drugs of abuse, with the exception of the benzodiazepine, things like Ativan, Xanax. Those drugs are more female risk factors. Also, if you have a mental health disorder and that includes things like depression, anxiety, schizophrenia, bipolar—all of those are major risk factors for addiction and especially if you have a history of addiction before you were provided this opioid or other substance."

The length of time you use prescribed opioids also plays a role. Researchers have found that taking opioid medications for more than a few days increases your risk of long-term use, which increases your risk of addiction. The odds you'll still be on opioids a year after starting a short course increase after only five days on opioids.

"If you have a lack of interest in participating in other approaches to pain management or symptom management, that could become a risk

factor," says Geyer. "We do have other tools to use, both pharmacologic or medication related, as well as non-medication related. Things like biofeedback, physical therapy, occupational therapy are all options. Choosing not to engage in those activities could put you at risk for abuse."

A number of additional factors—genetic, psychological and environmental—play a role in addiction, which can happen quickly or after many years of opioid use.

Known risk factors of [opioid misuse](#) and addiction include:

- Poverty—Unemployment—Family history of substance abuse—Personal history of substance abuse—Young age—History of criminal activity or legal problems including drunk driving citations—Regular contact with high-risk people or high-risk environments—Problems with past employers, family members and friends (mental disorder)
- Risk-taking or thrill-seeking behavior—Heavy tobacco use—History of severe depression or anxiety—Stressful circumstances—Prior [drug](#) or alcohol rehabilitation

In addition, women have a unique set of [risk factors](#) for opioid addiction. Women are more likely than men to have chronic pain. Compared with men, women also are more likely to be prescribed opioid medications, to be given higher doses and to use opioids for longer periods of time. Women also may have biological tendencies to become dependent on prescription pain relievers more quickly than men.

## STEPS TO PREVENT OPIOID ADDICTION

Opioids are safest when used for three or fewer days to manage acute

pain, such as pain that follows surgery or a bone fracture. If you need opioids for acute pain, work with your health care provider to take the lowest dose possible, for the shortest time needed, exactly as prescribed. If you're living with chronic pain, opioids are not likely to be a safe and effective long-term treatment option. Many other treatments are available, including less-addictive pain medications and non-pharmacological therapies. Aim for a treatment plan that makes it possible to enjoy your life without opioids, if possible.

Help prevent addiction in your family and community by safeguarding opioid medications while you use them and disposing of unused opioids properly. Contact your local law enforcement agency, your trash and recycling service, or the Drug Enforcement Administration for information about local medication take-back programs. If no take-back program is available in your area, consult your pharmacist for guidance.

The most important step you can take to prevent [opioid addiction](#)? Recognize that no one is safe, and everyone plays a role in tackling the grip these drugs hold on loved ones and communities.

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